SBF-CIET

10 Modules (3 Weeks each) | 3 Hours / Day | Monday-Friday

Foundation Programme: Computer Science Track

The one-year foundation program is designed to help students improve their skills in mathematics and programming before embarking on an intensive undergraduate degree in Computer Science. It gives students all the essential knowledge in programming, basic math, algorithms, and computer literacy they need to develop in information technology.

The program helps students grow both personally and professionally by encouraging self-discovery and developing key soft skills such as communication, teamwork, and leadership. After successful completion of our Foundation Program, students are granted an automatic right to enter all technical undergraduate degrees at Harbour.Space.

PROGRAMME STRUCTURE

Note: The modules listed represent our current offerings, but with an industry-led approach, we regularly update them to ensure they reflect the latest trends and practices.

MODULE 01

Programming 1

This beginner-friendly course will get you coding right away. You'll learn to write clear, maintainable scripts, spot and fix common errors, and control program flow with sequencing, conditionals (if-statements) and loops. You'll also explore how to organize data using basic types, simple structures and functions, see how HTML helps manage and display information, and finish by building your own Python programs with confidence.

MODULE 02

Programming 2

This course takes you deeper into writing robust, real-world programs with confidence and clarity. You'll create and organize reusable functions, manage errors with try/except, and structure larger projects using modules and packages. You'll master Python's versatile data containers—lists, tuples, dictionaries and sets—and learn to read/write files (text, CSV, JSON) to automate tasks. Get hands-on with Pandas for basic data cleaning and exploration, implement and compare classic search/sort algorithms, and learn Git essentials for tracking and collaborating on code. By the end, you'll follow best practices—documentation, formatting and testing—to confidently build and maintain Python applications.

MODULE 03

Maths as a Second Language 1

Building on your foundational math skills, MSL 1 sharpens your algebra toolkit and introduces key geometry and trigonometry concepts. You'll master expressions, equations and functions—linear, exponential and quadratic—and learn to visualize them on graphs. You'll solve compound and system inequalities, simplify radical and rational expressions, and explore the real number system. Finally, you'll dive into right-triangle trigonometry—defining sine, cosine and tangent and applying basic angle-ratio relationships. By the end, you'll confidently tackle and model real-world problems with algebra and trigonometry.

MODULE 04

Maths as a Second Language 2

Building on MSL 1, this course takes you into advanced Algebra and Pre-Calculus, equipping you to tackle more complex relationships. You'll deepen your work with equations, inequalities and systems in two and three variables, and explore quadratic, exponential and logarithmic functions and their real-world applications. You'll study arithmetic sequences, series and basic probability to understand patterns and chance, then expand your trigonometry beyond right triangles. In Pre-Calc, you'll learn function transformations and compositions, polynomial operations (including the binomial theorem), conic sections, vector math, complex numbers (rectangular and polar) and matrix algebra with determinants and inverses—fully preparing you for calculus.

MODULE 05

Information and Communications Technology (ICT)

In this hands-on course, you'll discover how computers think in ones and zeros—starting with binary, denary and hexadecimal number systems, binary arithmetic and how we pack text, sound and images into bits (with both lossy and lossless tricks). You'll then see how those bits travel safely across networks and devices—via packets, error checks, encryption and USB. We'll peel back the lid on the CPU's fetch-decode-execute cycle, logic gates and storage layers (from RAM to the cloud), contrast operating systems with apps, and finish by exploring smart sensors, robots and AI in the real world.

MODULE 06

Data & Network & Computer Systems

This course empowers you to handle and analyze data, starting with spreadsheets—formulas, charts, and data organization—then defining single-table databases in SQL for querying and manipulation. You'll explore Internet vs. WWW essentials (URLs, HTTP/HTTPS, cookies, blockchain) and learn to defend against cyber threats with firewalls, encryption, and authentication. Finally, you'll build algorithmic thinking—decomposition, loops, debugging—and implement classic sorts and searches to solve problems efficiently.

MODULE 07

English for Business Communication

The course is designed to develop essential English language skills tailored for business environments. It focuses on improving listening, speaking, reading, and writing abilities with practical applications such as composing emails, reports, proposals, and presentations. The course also covers key concepts of business communication including audience analysis, message clarity, tone, and professional etiquette.

MODULE 08

Limitless Human Becoming

In this module, students work, learn, and reflect about themselves. On the way the students will explore ancient philosophical concepts on the human being. They will dig into some learnings of neuroscience research, learn about inner decision-making and emotional intelligence.

MODULE 09

Together We Thrive: Communication & Teamwork Essentials*

Students will explore strategies to overcome communication barriers, enhance interpersonal interactions, and build strong, cohesive teams for personal and professional success. The course emphasizes practical techniques for active listening, conflict resolution, and cultural awareness to foster productive teamwork in diverse environments.

MODULE 10

Foundations of Entrepreneurship

This course introduces learners to the fundamentals of entrepreneurship, focusing on developing the mindset, skills, and knowledge needed to start and manage successful ventures. Topics include recognizing business opportunities, generating and validating ideas, understanding types of business ownership, creating business plans, financing startups, marketing strategies, and ethical considerations.